

REMARKS

Claims 1-3 and 5-27 remain pending after amendment.

Claim Amendments

By this amendment, claim 7 is written in independent form. New claims 11-27 are added. The dependency of claim 8 is amended. Claim 9 is amended in a manner consistent with the prior amendment of claim 7. Support for new claims 11-14 resides at page 13, lines 10-11. Support for new claims 15, 16 and 23 resides at page 9, lines 13-17. Support for new claims 18 and 27 resides at page 13, lines 4-11. Support for new claims 25-26 resides at page 5, lines 1-3. The remaining of the newly-presented claims correspond to previously-presented dependent claims. No new matter is added by this amendment.

Rejection of Claims 1-3, 5 and 8-10 under 35 USC 102(b)

Claims 1-3, 5 and 8-10 stand rejected under 35 USC 103(a) as being unpatentable over Vander Wielen U.S. Patent No. 4,720,415 in view of Schleinz et al U.S. Patent No. 5,612,118.

This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

In applicants' claimed invention, the bulky sheet material is comprised of first and second layers partly joined together, with the first layer having a number of protrusions, with the second layer comprising a fiber aggregate comprising fibers which are made of a thermoplastic polymer and exhibit thermal shrinkability and elastomeric behavior, and the first layer comprising a fiber aggregate which comprises fibers which are made of a thermoplastic polymer and which have substantially no thermal shrinkability or do not shrink at or below the thermal shrinkage temperature of the fibers exhibiting thermal shrinkability. The sheet is heat-treated at or above a temperature at which thermal shrinkage of the fibers constituting the second layer is initiated, whereby the second layer shrinks to form protrusions in the first layer.

Applicants' sheet material is formed by superimposing the first and second layers of fiber aggregate and subjecting the superimposed layers to heat treatment, whereby the elastomeric fiber aggregate of the second layer shrinks, while the fiber aggregate of the first layer does not - thus forming the protrusions in the first layer due to the contraction (shrinkage) of the elastomeric second layer.

By contrast, the sheet material of Vander Wielen is formed by elongating an elastic web while bonding the elongated web to an adjacent gatherable layer. The elongated elastic web is then permitted to become relaxed at which time the gatherable layer becomes gathered at spaced apart locations. It is not the intent of the reference that the elastic web be heat shrinkable while retaining its elasticity as required by applicants' amended claim 1. In applicants' invention, "gathered portions" are formed in the adjacent non-heat shrinkable layer upon shrinkage of the heat shrinkable layer.

The above distinction between the invention of Vander Wielen and applicants' claims is material to the formation of the claimed product. Vander Wielen teaches that one layer is attached to another layer while one layer is extended or stretched. If the extended layer is comprised of a fabric in which residual strain remains after being stretched, the layer may not return to the same length upon the strain being released.

However, if the extended layer does not return to its original length due to the existence of residual strain, the ability of the layer to produce the desired projections is reduced. If this disadvantageous result is sought to be avoided

by reducing the amount of the extension, the ability to produce projections of the desired height is reduced. Additionally, the extension of the layer in both lateral and longitudinal directions causes many problems to result in the manufacturing process.

Vander Wielen thus not only fails to suggest the claimed invention, but teaches away from the claimed invention.

Schleinz is cited in an attempt to overcome such deficiencies of Vander Wielen. Schleinz teaches that a joined layer can be gathered by elastic fibers that are heat shrunk, citing column 8, lines 1-10. The Examiner accordingly takes the view that it would have been obvious to use heat shrinkable fibers to gather the web of Vander Wielen while avoiding the stretching step taught by Vander Wielen.

The deficiencies of Vander Wielen are discussed at length above. Such deficiencies are not cured by the Examiner's citation of Schleinz.

As argued previously, the elastic layer 52 of Schleinz is not a "fiber aggregate" as required in applicants' claims – the reference instead teaches that the layer 52 is comprised of "any suitable elastic material, and can be in the form of a flat sheet or layer of elastic material or a plurality of strands,

ropes or the like, of elastic material." See column 4, lines 36-40 of the reference.

The Examiner's combination of the cited references must fail for several reasons. First, Schleinz does not teach the use of a fiber aggregate as the elastic layer. Even if Schleinz can properly be relied upon to teach a "fiber aggregate" in the manner defined by applicants' claim 1, the cited combination must fail in view of the distinctions that exist between the claimed invention and the teachings of Vander Wielen.

Secondly, no motivation or suggestion resides in either of the references to replace the elastic layer of Vander Wielen with the heat shrinkable layer 52 of Schleinz, especially given the teachings of Vander Wielen in this regard. Indeed, the modification of Vander Wielen in the manner suggested by the Examiner would result in a sheet material of diminished permeability in contrast to that achieved by applicants' invention.

The recited references also fail to disclose or suggest the limitations of the other rejected claims.

Claim 5 recites the use of latent crimping fibers in the second layer which are neither disclosed nor suggested in the cited references. The use of latent crimping fibers together

with the heat shrinking process enables a particularly desirable configuration to be produced.

Method claim 8 is directed to the formation of the first layer by carding, which results in the formation of "filled protrusions" as depicted in applicants' Figure 2. Such an embodiment is neither disclosed nor suggested by the cited references.

Claim 9 is similarly distinguishable over the combination of references. Claim 10 is directed to an embodiment wherein the first and second layers are comprised of one of a carded web, a nonwoven fabric, or a knitted fabric. The embodiment of claim 10 is clearly distinguishable over the teachings of Schleinz, which is silent with respect to the use of such fiber aggregates (even if, arguendo, Schleinz can be interpreted to teach the use of a fiber aggregate as suggested by the Examiner).

In view of the above, the rejection is without basis and should be withdrawn.

Rejection of Claims 6-7 under 35 USC 103(a)

Claims 6 and 7 stand rejected as being unpatentable under 35 USC 103(a) as being unpatentable over Vander Wielen in view of Schleinz and Zelazoski et al. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

The deficiencies of both the Vander Wielen and Schleinz references are discussed above. The additional citation of Zelazoski et al does not overcome such deficiencies. Indeed, the mere application of Zelazoski to teach the presence of "perforations" in claim 6 does nothing to address the inadequacies of the primary references.

By way of further response, claim 7 is written in independent form. Claim 7 is directed to an absorbent article comprised of a liquid-permeable topsheet, a liquid-impermeable backsheet, and an absorbent member (consistent with the definition of claim 1). Neither of the cited references teaches or suggests the absorbent article of claim 7 having the recited structure.

The rejection is thus without basis and should be withdrawn.

**Newly-Presented Claims**

Applicants also present new claims 11-27 which are similarly believed to patentably distinguish over the cited prior art.

Claim 11 corresponds to claim 7, with the exception that claim 11 depends from claim 5 which provides for the use of latent crimping fibers in the second layer. Claims 12-14 provide for the presence of the bulky sheet material in one of the surface sheets of the absorbent article. Claims 15 and 16 provide for the use of latent crimping fibers. Claims 17 and 19-24 correspond to prior dependent claims. Claims 18 and 27 are directed to a sanitary napkin article comprised of the bulky sheet material. Claims 25-26 are directed to protrusions which are either filled or hollow. None of the embodiments of claims 11-27 are disclosed or taught by the cited prior art, and should accordingly be found to be allowable.

The application is now believed to be in condition for allowance and an early indication of same is earnestly solicited.

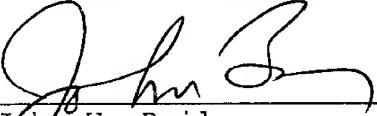
In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact James W. Hellwege (Reg. No. 28,808) at (703) 205-8000 to discuss such matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By \_\_\_\_\_

  
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